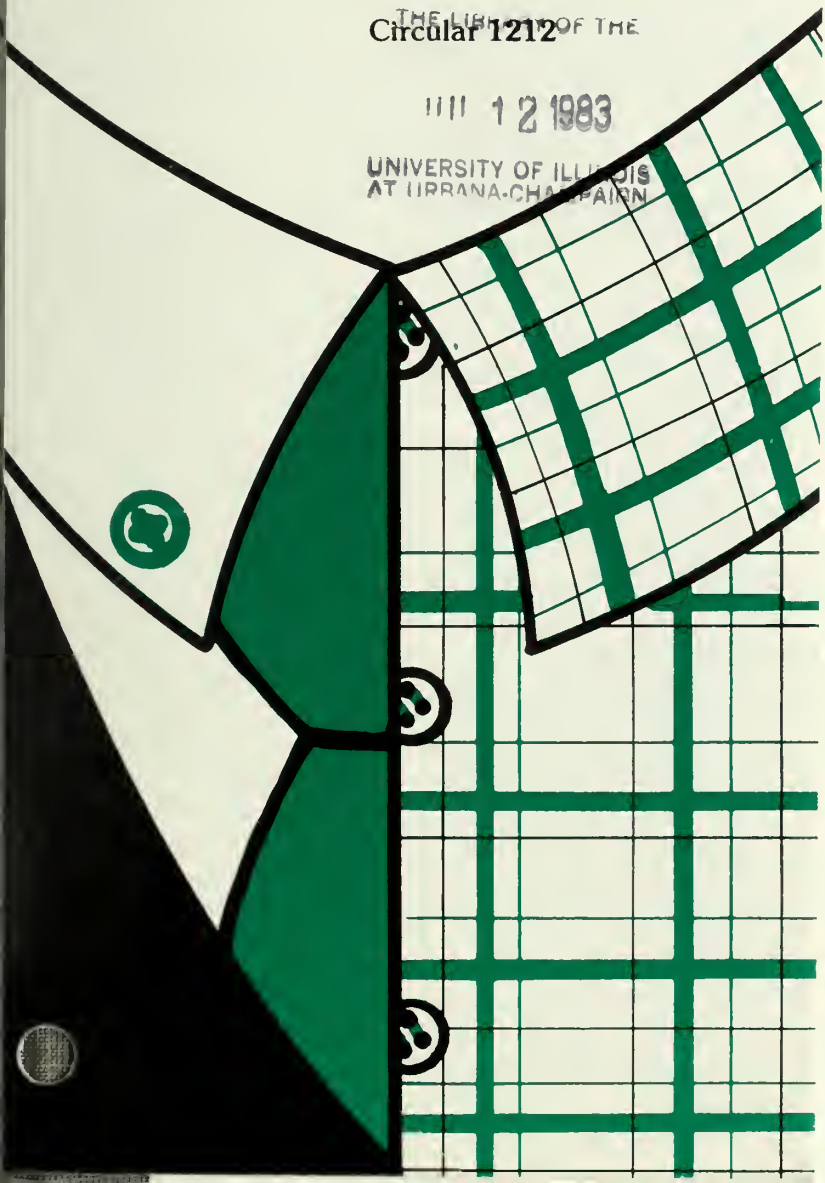
A GUIDE FOR WEEKEND WOODCUTTERS

University of Illinois at Urbana-Champaign
College of Agriculture
Cooperative Extension Service

Circular 1212



The woodbox is empty. Your chain saw engine has been tuned up and the chain is new. The pickup truck is ready and your spouse has agreed to help out today. You're almost ready to cut firewood.

Before you set out, however, you should be sure you know the right place and time to do your cutting, which trees to fell, and how much wood to harvest. A carefully planned firewood harvest can provide you with inexpensive fuel while actually improving the growth conditions and value of the woodlot. Thoughtless cutting, on the other hand, could result in long-term or permanent damage to the forest and could ruin thousands of dollars' worth of beautiful timber.

WHERE TO CUT

Cut Where It Is Allowed

Unless you are cutting on your own property, you must obtain permission from the landowner. If the land is state or federally owned, you may be able to purchase a permit to cut firewood by contacting the ranger or forest supervisor. Cutting trees without permission is thievery.

If you are a landowner seeking to have your woods thinned by weekend woodcutters, be very cautious in granting permission. You are legally responsible for the woodcutters' safety and will want to be sure that they will not harm themselves or your forest. Consider, too, that you should receive some return for the wood harvested.

Cut Close To Home

If you must drive more than 75 miles to reach the woodlot, your transportation costs may make the firewood more expensive than other fuels. More information on this subject is available in University of Illinois Department of Forestry Leaflet No. 10, "Firewood Economics" (see page 11).

Avoid Fragile Sites

In some locations, living trees are more valuable than the wood that could be obtained by felling them. For example, windbreak, stream-bank, and hillside

forests are essential to soil and water conservation. Consult your state forester before you thin trees in such areas.

WHEN TO CUT

Cut in Spring

Wood must be seasoned (dried) before it will burn properly. It seasons most quickly during the hot, dry days of summer, and only after it has been cut from the stump. The wood that you plan to use in late fall should therefore be cut no later than the previous spring.

Wet wood is heavier and thus more difficult and expensive to haul than seasoned wood. A standard cord of green wood will lose almost half a ton of water over the summer. If possible, cut the wood in the early spring, stack it at the woodlot to season over the summer, and haul it home in the fall. You will save yourself and your truck unnecessary work.

Cut When Growth Slows

The growth rate of trees varies for many reasons. A decrease in the growth rate of a stand may result from a problem that is only temporary, such as insufficient rainfall. If the condition is more permanent — for example, if the trees are crowded or suffer from uncontrollable pests, poor soils, or dense shade — thinning may improve the growth of the remaining trees.

All trees grow slowly, and it is difficult to distinguish temporary from permanent setbacks. Before deciding to remove trees, observe the stand for several years if possible, or discuss the situation with your state forester. Remember that you can always decide later to cut, but once a tree has been felled it will take years to replace.

WHICH TREES TO CUT

You may ask your state forester to mark trees for harvest operations or removals that will improve the remaining timber stand. This management service is provided free and is the best way to guarantee maximum wood harvest with minimum error. Landowners who maintain healthy forests through such timber stand improvements may qualify for membership in or rec-

ognition by the American Tree Farm System. Some of the types of trees that should be cut are described in the following sections.

Cut Diseased Trees

To preserve the vigor of healthy trees, it is desirable to remove trees that have contagious diseases or serious insect infestations (Figure 1). For example, a "sanitation cut" is one method of controlling the spread of oak wilt disease.

Figure 1. Badly diseased, this tree should be removed.

Cut Wolf Trees

A wolf tree (Figure 2) might be better called a "hog" tree — it monopolizes or hogs the basic necessities of life (light, water, and nutrients), greatly retarding the growth of nearby trees. Wolf trees have large, spreading

crowns and usually have a root system to match. In a yard or open space, wolf trees have aesthetic appeal and may provide shade, food, and habitat for wildlife, but in a forest there is little advantage in saving them. Wolf trees generally do not have much commercial value because of their short stems and spreading branches, which produce large knots in the wood. The large limbs of wolf trees are fine for firewood, however.

Figure 2. This wolf tree is stunting the growth of neighboring trees. It will make excellent firewood.

Cut Damaged Trees

Trees that have poor stems or small crowns and those that have been damaged by lightning, past logging practices, wind, insects, or grazing should be salvaged

Figure 3. These trees have been badly damaged by horses.

for firewood (Figure 3). Such trees will not usually become more attractive with age, nor will they increase in value for timber.

Thin and Prune

Thinning is the cutting of selected trees to reduce the overall tree density (Figure 4). Thinning improves the growth conditions for the remaining trees and should first be considered when the trees are 15 to 25 years old. It is best to have a professional forester mark trees for thinning so that the finest trees will be left growing at the optimal density and spacing. The trees removed may be used for firewood.

Pruning is the removal of the lower branches so that the tree will produce clear, high-grade lumber or veneer logs. Pruning should start when the trees are 4 inches in diameter. At the first pruning, remove branches to a height of 8 feet. Branches should be cut off flush with the trunk of the tree. In subsequent prunings you should remove branches to a height of 12 feet and, finally, 17 feet. The pruning height should never be more than one-third the height of the tree, however, and you should allow the tree several years' growing time between prunings. Branches that are pruned off are usually too small to be saved for firewood but can be stacked in a brush pile to provide cover for wildlife.

Figure 4. This stand has been thinned to optimal density.

Cut Weed Trees

People have differing opinions about which tree species are "weeds." A weed tree is one that has little or no commercial value and that is not part of your overall forest plan. Weed trees should be cut to leave space for more valuable species. It is easier to define trees that are *not* weeds — those that are so valuable and useful that they fit into every forest plan. These trees are described in the next section. If you are uncertain about the identity of your trees or their value and uses, consult the references at the end of this

circular. Most weed trees are fine for firewood, although the wood from some may be difficult to split or may throw off sparks when burned.

WHICH TREES TO PRESERVE

Walnut and oak trees provide Illinois's highest grade lumber. In addition, they grow well here, have aesthetic appeal, and provide food for wildlife. It is extremely wasteful to cut these trees for low-grade uses (such as firewood, pulp, or fence posts) when other trees will serve just as well. A straight, clear, veneer-quality walnut log 16 feet long and 16 inches in diameter may be sold for more than $200.

Some key features by which to recognize walnuts and oaks are shown in Figures 5 and 6. Remember, *do not* cut these trees unless they are badly damaged or decayed or unless you have even better oaks or

Figure 5. Key features for identifying black walnut.

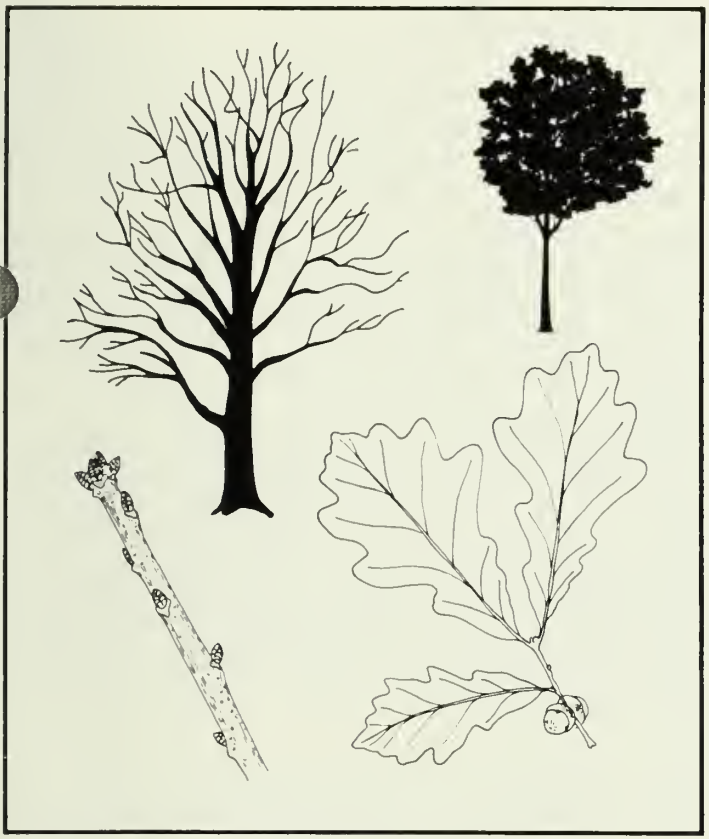


Figure 6. Key features for identifying white oak.

walnuts you wish to favor by thinning. Although it may be necessary to harvest diseased trees prematurely, they may still be too valuable to use as fuel.

HOW MUCH TO CUT

The size of your forest, your home's heating fuel requirements, and your wood-hauling capabilities will all be a part of the decision on how much wood to cut.

For the Forest

The best-managed forests are those in which the tree density is optimum. Growth will be slow on stands that are either too dense or too open, and trees may become very branchy in open stands. Your state forester can suggest an appropriate tree density for the site conditions in your forest.

For Sustained Yield

If you wish to harvest wood for many years, you should remove only as much wood as the forest produces each year. Following this rule, heating an average-sized home would require a 5- to 10-acre woodlot. A healthy, productive, 1-acre woodlot in Illinois will produce 30 to 50 cubic feet of wood per year, or approximately half a standard cord. Because most of this growth occurs on small twigs, it will take a number of years after planting to build up your wood capital before you start a sustained harvest.

For Your Home

The energy efficiency of homes varies greatly, as does the efficiency of wood stoves and fireplaces. The quantity of wood you will need to heat your home also depends on the weather and on the temperature you will maintain in your home. The extent to which you rely on other fuels is also important. By taking these factors into account, you should be able to estimate your fuel needs.

For Your Truck

Be careful not to overload your truck or your back when hauling wood. A standard cord of air-dried hardwood weighs 1 to 2 tons. A standard cord is a stack of 4-foot logs that is 4 feet high and 8 feet long.

HOW TO CUT SAFELY

If you are not familiar with recommended methods for cutting and pruning trees or need to review safety procedures, please read Circular 1170, *Chain Saw Safety Tips,* listed below.

WHERE TO LEARN MORE

To locate the state forester for your region, write or call:

Illinois Division of Forest Resources and Natural Heritage
Northwest Office Plaza
600 North Grand West
Springfield, Illinois 62706
Telephone (217) 728-2361

For information about joining the American Tree Farm System, write:

The American Forest Institute
1619 Massachusetts Avenue NW
Washington, D.C. 20036

Other information of value to weekend woodcutters can be found in the following publications:

Chain Saw Safety Tips. Illinois Cooperative Extension Service Circular 1170. Available from your county Extension adviser or the Office of Agricultural Publications, University of Illinois, 123 Mumford Hall, 1301 West Gregory Drive, Urbana, Illinois 61801.

Collected Papers of the Tri-State Forestry Conference, ed. by C. A. Hooper and T. W. Curtin, 1982. Provides information on the planning, use, and management of small forests. Available from the University of Illinois Department of Forestry.* ($2.00)

Firewood Economics by M. F. Bolin, 1980. University of Illinois Department of Forestry Leaflet No. 10.*

Forest Trees of Illinois, by Robert H. Mohlenbrock, 1973. A paperback book helpful in identifying trees. Available from the Main Office, Illinois Department of Conservation, Division of Forestry and Natural Heritage, 600 North Grand West, Springfield, Illinois 62706

Heating with Wood. A folder of pamphlets on topics such as firewood economics, safety, seasoning, and measuring. Available from the University of Illinois Department of Forestry.* ($2.00)

* Order from the Department of Forestry, University of Illinois, 110 Mumford Hall, 1301 West Gregory Drive, Urbana, Illinois 61801.

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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. WILLIAM R. OSCHWALD, *Director,* Cooperative Extension Service, University of Illinois at Urbana-Champaign.

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